The healthcare industry is in transition. Advanced device connectivity will change medical practice, lower costs and improve patient outcomes. RTI Connext™ DDS is a software communications platform that ensures your data is where it is needed, when it is needed, to provide quality care and improve the safety and efficiency of healthcare delivery.

Medical applications fall into three broad categories: connected medical devices, imaging and treatment machines, and surgical systems. Fast, reliable networking is changing all three.

Connected Medical Devices for Patient Safety

Hospital error is a leading cause of preventable death. Many of these errors are caused by false alarms, slow responses, and inaccurate treatment delivery.

Today, a new technology disruption is spreading through patient care: intelligent distributed medical systems. By networking devices, alarms can become smart, only sounding when multiple devices indicate errant physiological parameters. By connecting measurements to treatment, smart drug delivery systems can react to patient conditions much faster and more reliably than busy hospital staff. By tracking patients around the hospital and connecting them to cloud resources, efficiency of care can be dramatically improved. The advent of true "Internet of Things" networking in healthcare will save costs and lives.

When deployed, Connext DDS eases patient monitoring. It coordinates devices in each room, and connects rooms into an integrated whole hospital. Information flows easily and securely to cloud-based EHR databases. With Connext DDS, the hospital of the future will become an intelligent, distributed machine in the Industrial Internet of Things.
Medical Imaging and Treatment Systems

Major medical systems may include 50 or more processors that work together to control motion, generate and form radiation, collect images and synchronize operation with patient waveforms. Bandwidth control and efficient transport are critical.

Connext DDS excels at large machine integration. It handles complex interactions between distributed components. It delivers data fast enough to accurately synchronize the parts of the machine and also handle the extreme dataflows.

RTI communications software is ideal for applications such as CT scanners, MRI imagers, X-ray, ultrasound and radiation treatment.

Surgical Systems

Common surgical tools such as catheters, fluoroscopes and ultrasound imagers are becoming intelligent distributed machines as they integrate real-time video, pressure sensors and navigation assistance.

Connext DDS can deliver multiple channels of video from any set of sources to any set of users. Single fibers or wireless links replace hundreds of wires. Automatic discovery eliminates a lot of manual configuration, making it easier, and cheaper, to set up equipment and people. Information can flow off site, integrate with devices and update the EHR.

The RTI Solution

Connext DDS software provides a secure foundation for building healthcare applications that require real-time monitoring, collaboration or integration with other clinical or IT systems. Its data-centric architecture enables system-level design of data models and interoperability across devices and communication protocols.

RTI is already integrating the next generation of distributed clinical systems, working closely with leading suppliers of patient monitoring systems, medical imaging devices and surgical systems such as DocBox, Agilent, CIMIT/MDPnP, MiroLab, Mevion Medical Systems and the Integrated Clinical Environment (ICE) standard.